

REMARKS/ARGUMENTS

The present Amendment is in response to the Office Action having a mailing date of August 2, 2006. Claims 1-44 are pending in the present Application. Claims 8-10 and 12-44 have been withdrawn from consideration. Applicant has amended claim 1 and added claims 45-46. Consequently, claims 1-7, 11, and 45-46 remain pending in the present Application.

In the above-identified Office Action, the made final the restriction requirement made on February 24, 2006. Applicant respectfully reiterates Applicant's traversal of the restriction requirement, particularly with respect to the Examiner's conclusions regarding distinct species.

Applicant has made minor grammatical amendments to claim 1. Applicant has also amended claim 1 to recite that the free layer may include a multilayer. These amendments are seen by Applicant as broadening or cosmetic, and as such, is not subject to the prosecution history estoppel imposed by Festo. For the record, Applicant points out that the Supreme Court in Festo noted that a cosmetic amendment would not narrow the patent's scope and thus would not raise the estoppel bar. Applicant has also added claims 45-56. Support for new claims can be found in the specification, paragraphs 40-43.

In the above-identified Office Action, the Examiner rejected claims 1-2 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6381,106 (Pinarbasi). In so doing, the Examiner cited col. 6 and FIG. 13 of Pinarbasi.

Applicant respectfully disagrees with the Examiner's rejection. Claim 1 recites a magnetic element including a pinned layer, a spacer layer, and a free layer. The free layer has a low saturation magnetization and may include doped ferromagnetic materials and/or a multilayer. The doped ferromagnetic material(s) include ferromagnetic material(s) that are diluted with at least one nonmagnetic material and/or ferrimagnetically doped. Specific dopants are also recited in

claim 1. In addition, claim 1 recites that the magnetic element is configured to allow the free layer magnetization to be switched due to spin transfer when a write current is passed through the magnetic element. This corresponds to a particular configuration, such as lateral dimensions that are small and preferably less than two hundred nanometers. Specification, paragraph 27.

Pinarbasi fails to teach or suggest the magnetic element recited in claim 1. More specifically, Pinarbasi fails to teach or suggest the recited material(s) in the free layer in combination with the magnetic element being configured to allow the free layer magnetization to be switched due to spin transfer when a write current is passed through the magnetic element.

Pinarbasi describes a magnetic sensor. Thus, the magnetic element is responsive to an external magnetic field. Pinarbasi, col. 4, lines 11-12. See also, Pinarbasi, col. 1, lines 12-32. Pinarbasi also states that a sense current is driven through the sensor in order to read the change in resistance of the magnetic element. Pinarbasi, col. 4, lines 11-16. Pinarbasi also goes on to describe aspects of the sensor, such as the composition of the free layer. Pinarbasi, col. 6, lines 15-67. However, Pinarbasi specifically states that the structure resides within a read head. Pinarbasi, col. 6, lines 15-16. Thus, the structure is still a sensor having its magnetization sensitive to an external field.

Thus, Pinarbasi describes a magnetic element that is configured such that the magnetization of the free layer responds to an external field. Consequently, the magnetic structure of Pinarbasi is not configured such that the magnetization is changed due to a write current driven through the magnetic element. Further, Applicant has found no mention in the cited portion of Pinarbasi of specific lateral dimensions that might indicate that the structures of Pinarbasi may have their free layer magnetization changed due to a write current driven through the magnetic element.

Consequently, Pinarbasi fails to teach or suggest the magnetic element recited in claim 1.

Accordingly, Applicant respectfully submits that claim 1 is allowable over Pinarbasi.

Claim 2 depends upon independent claim 1. Consequently, the arguments herein apply with full force to claim 2. Accordingly, Applicant respectfully submits that claim 2 is allowable over Pinarbasi.

The Examiner also rejected claims 1-7 and 11 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6781872 (Saito). In so doing, the Examiner cited FIGS. 12-16 and columns 15-16 of Saito.

Applicant respectfully disagrees with the Examiner's rejection. More particularly, Saito fails to teach or suggest the recited material(s) in the free layer in combination with the magnetic element being configured to allow the free layer magnetization to be switched due to spin transfer when a write current is passed through the magnetic element.

Saito describes a magnetic structure for use in magnetic memories. Saito describes magnetic elements having specific materials, as well as specific thickness ranges. See, for example, Saito, col. 15, lines 7-30. However, Applicant can find no mention in the cited portion of Saito of the magnetic element being configured such that the free layer magnetization is changed due to a write current driven through the magnetic element. Further, Applicant has found no mention in the cited portion of Saito of specific lateral dimensions that might indicate that the structures of Saito may have their free layer magnetization changed due to a write current driven through the magnetic element. Consequently, Saito fails to teach or suggest the magnetic element recited in claim 1. Accordingly, Applicant respectfully submits that claim 1 is allowable over the cited references.

Claims 2-7 and 11 depend upon claim 1. Consequently, the arguments herein apply with full force to claims 2-7 and 11. Accordingly, Applicant respectfully submits that claims 2-7 and 11 are allowable over the cited references.

Furthermore, claim 6 specifically recites the existence of a high spin polarization layer between the free and spacer layers. Although the Examiner cited cols. 15-16, Applicant has found no mention in the cited portion of Saito that a high polarization layer between the spacer and free layer. Accordingly, Applicant respectfully submits that claim 6 is separately allowable over the cited references.

New claims 45 and 46 depend upon independent claim 1. Consequently, the argument herein applies with full force to claims 45-46. Accordingly, Applicant respectfully submits that claims 45-46 are allowable as currently presented.

Moreover, claim 45 recites that the free layer includes at least CoX, FeX, NiFeX, CoXY, FeXY, CoFeXY, NiFeXY, and/or CoNiFeXY where X or Y is Cr, Rh, Ru, TaN, CuN, TaCuN, and/or CoFeX where X is Cr, Rh, Ru, TaN, CuN, and TaCuN. Claims 46 recites a plurality of bilayers and that each of the plurality of bilayers includes a $\text{Fe}_x\text{Co}_{1-x}$ and a Cu layer, x less than one. Applicant has found no mention in the cited references of such a combination of elements or such bilayers. Accordingly, Applicant respectfully submits that claims 45-46 are separately allowable over the cited references.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

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Date

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